State of Alaska
Department of Fish and Game
Habitat and Restoration Division

Nomination for Waters Important to Anadromous Fish

Region: INTERIOR

USGS Quad: Ft. Yukon A-1,A-2, B-2, B-3,C-3; Circle D-1, Charley River D-6

Anadromous Water Catalog Number of Waterway: 334-45-11000

Name of Waterway: Yukon River ☑ USGS Name ☐ Local Name

☑ Addition ☐ Deletion ☐ Correction ☐ Backup Information OK LLR

For Office Use

Nomination # 01 020			
Revision Year:			
Revision to: Atlas ____ Catalog ____ Both X	Regional Supervisor		Date 6/21/01
Revision Code: B-2, E-7	AWC Project Biologist		Date 6/6/01
	Drafted		Date 7/27/01

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Sheefish	9/1 - 10/30 1997-1998-1999	X 57 minimu			☑
					☐
					☐
					☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments:

Mature inconnu were radio-tagged duirng 1997, 1998 and 1999. Of 73 adults inconnu tagged, 57 moved to this stretch of the Yukon in the Yukan Flats region of the mainstem Yukon River for spawning between September and October. Inconnu captured at the same time as radio-tagged fish that underwent otolith micro-chemical analysis exhibited strontium levels indicative of a saltwater environment. Therefore, fish spawning in the Yukon River from this group of radio-tagged fish are anadromous as well. Seining conducted in the spawning area captured adult sheefish, humpback whitefish and berring cisco in spawning condition. Radio-tagged fish rapidly moved downstream after spawning. This study was conducted by Randolph J. Brown and data used for this nomination can be found in his Thesis for the Degree of Master of Science, from the University of Alaska Fairbanks (Cover Page and Abstract attached as well as maps showing spawning location).

Name of Observer (please print): Randolph John Brown

Signature: Randy J. Brown Date: 1/18/01

Address: 101 12th Ave., Room 222
Fbx., AK 99701

ALASKA DEPT. OF FISH & GAME
JAN 29 2001
REGION II
HABITAT AND RESTORATION DIVISION

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes per AS 16.05.870.

Signature of Area Biologist: _____

Revision 3/97

Migratory Patterns of Yukon River Inconnu as Determined with Otolith Microchemistry and Radio Telemetry

A Thesis
for the Degree of
Master of Science

by
Randolph John Brown, B.S.

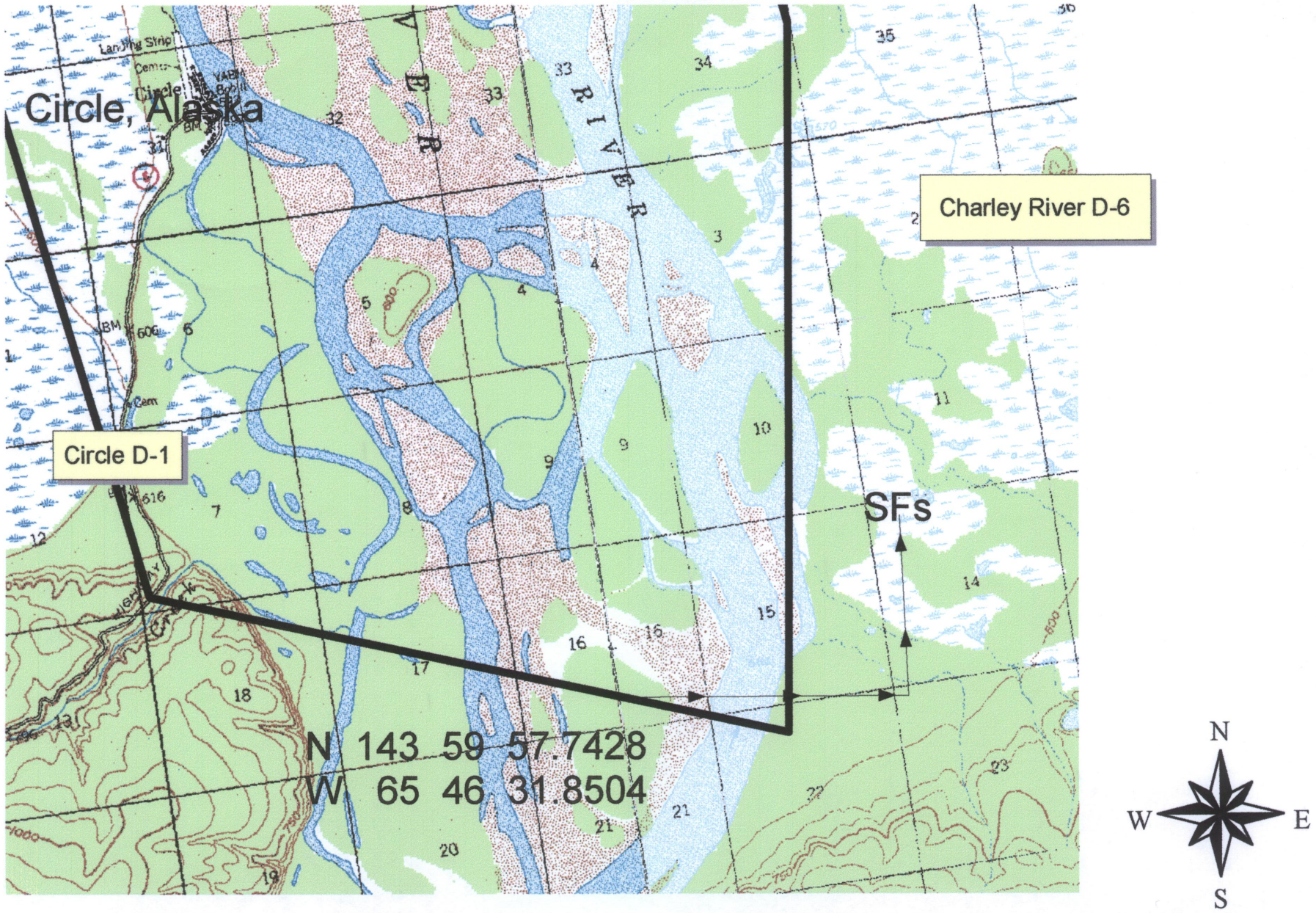
University of Alaska Fairbanks
Fairbanks, Alaska

May 2000

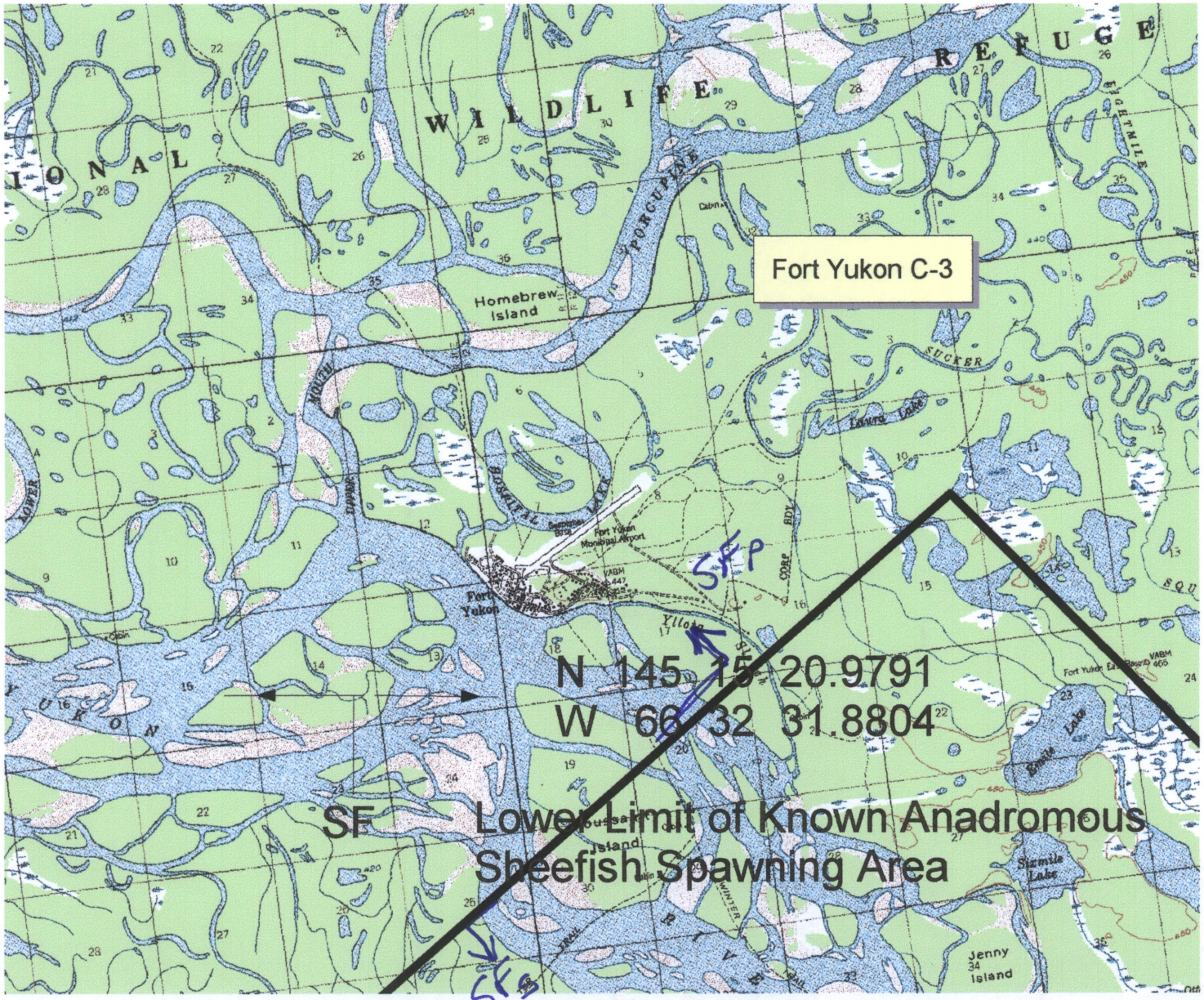
Abstract

Migratory patterns of Yukon River inconnu *Stenodus leucichthys* were evaluated using otolith aging and microchemical techniques and radio telemetry. Research was conducted each fall between 1997 and 1999, on inconnu captured at a study site 1,200 river km from the Bering Sea. Biological data were collected to establish maturity and spawning condition. Sagittal otoliths were analyzed optically to determine age distribution, and microchemically to determine amphidromy. Inconnu were tagged with radio transmitters and located in upstream spawning destinations. Inconnu captured at the study site were uniformly large, mature fish preparing to spawn. Age estimates ranged from 7 to 28 years. Microchemical analyses suggested that the population was amphidromous rather than freshwater only. Preliminary testing of radio transmitter attachment methods showed that the internal method (pushed through the esophagus into the stomach) was superior to the external method (attached behind the dorsal fin) for use with migrating inconnu. Most radio-tagged inconnu were located during their spawning time in a common region of the Yukon River. Inconnu captured at the study site each fall were mature fish engaged in a spawning migration that originated in the lower Yukon River or associated estuary regions, and continued towards a common spawning destination in the Yukon River, approximately 1,700 river km from the sea.

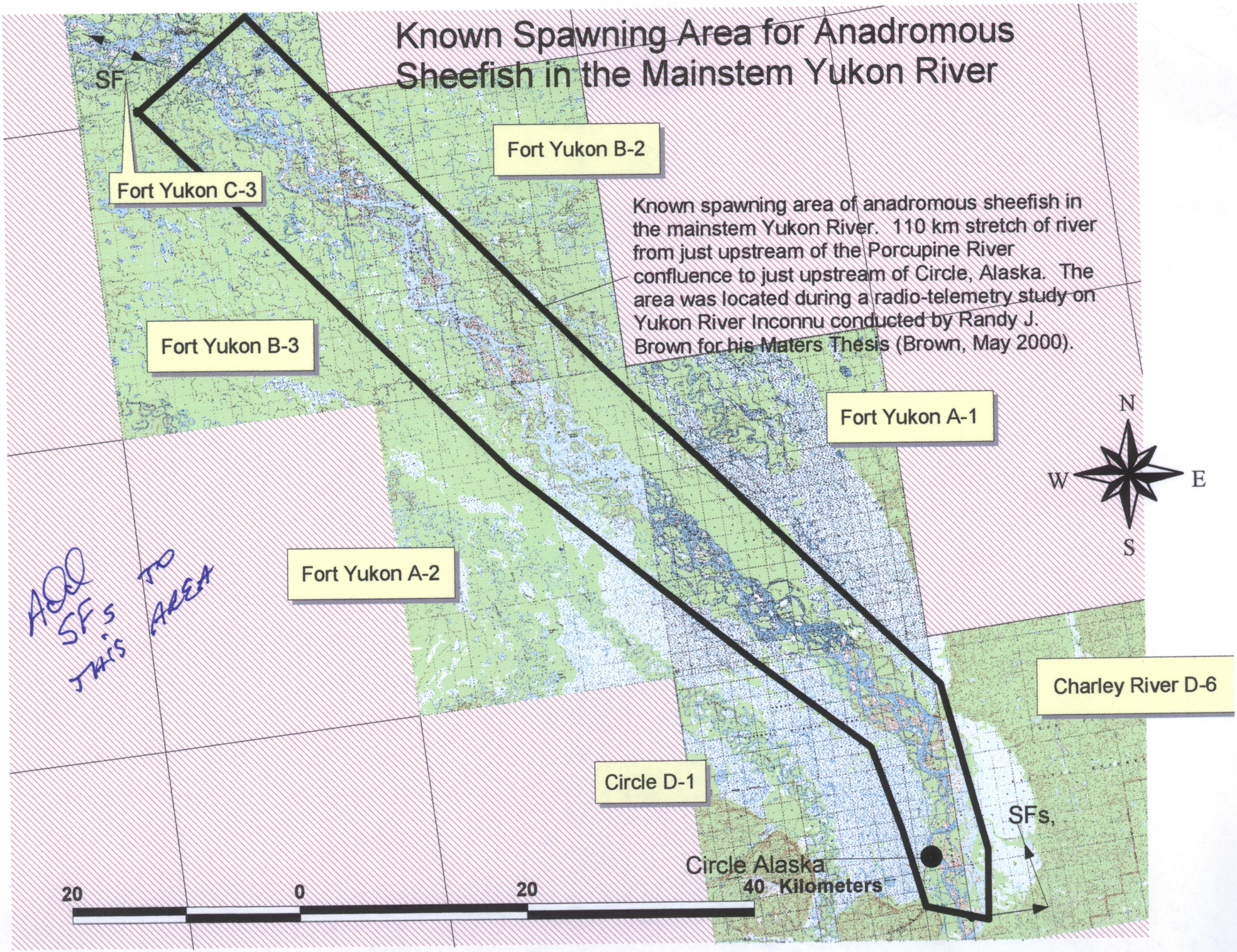
Upstream Limit of Known Anadromous Sheefish Spawning Area



Lower Limit of Known Anadromous Sheefish Spawning Area, Yukon River



Add upper SFP label.
Add SFS to stream 334-40-11000


Known Spawning Area for Anadromous Sheefish in the Mainstem Yukon River
SF
Fort Yukon C-3
Fort Yukon B-2
Fort Yukon B-3
Known spawning area of anadromous sheefish in the mainstem Yukon River. 110 km stretch of river from just upstream of the Porcupine River confluence to just upstream of Circle, Alaska. The area was located during a radio-telemetry study on Yukon River Inconnu conducted by Randy J. Brown for his Maters Thesis (Brown, May 2000).
Fort Yukon A-1
N
W
E
S
Fort Yukon A-2
ADD SFs TO THIS AREA
Charley River D-6
Circle D-1
SFs,
Circle Alaska
20
0
20
40 Kilometers